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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/879,276	06/11/2001	Adisak Makkittikul	LANT-P005	3507

7590

08/26/2003

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EXAMINER

TAKEGUCHI, KATHY K

ART UNIT

PAPER NUMBER

2187

DATE MAILED: 08/26/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/879,276

Applicant(s)

MAKKITTIKUL ET AL.

Examiner

Kathy Takeguchi

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 June 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

1. The present Office Action is a Non-Final Action taken in response to examination of Claims 1-14, presented in the application. Applicant is reminded that each individual associated with the filing and prosecution of a patent application has a duty of candor and good faith in dealing with the Office, which includes a duty to disclose to the Office all information known to that individual to be material to patentability as defined in 37 CFR 1.56.

Objections

2. In the specification (page 8, line 20), “there is one tail, one main memory buffer, and one *tail* associated with each data flow” should be changed to “there is one tail, one main memory buffer, and one *head* associated with each data flow”. Appropriate correction is required.

3. Applicant’s cooperation is requested in correcting any errors of which applicant may become aware in the specification, the drawings or the claims.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1-7 and Claims 9-13 are rejected under 35 U.S.C. 102(b) as being anticipated by Yang et al (United States Patent No. 5,546,543).

With respect to Claim 1, Yang et al disclose a method in a computer network for caching data within the network node comprising the steps of: receiving data packets incoming from said network (e.g., Figure 2; Column 5, lines 10-12); storing said data packets in a first cache until a predetermined amount of data is received (e.g., Figure 2; Column 5, lines 10-22); transferring said predetermined amount of data in said first cache to a main memory in a single memory operation (e.g., Column 5, lines 10-22); and transferring said predetermined amount of data from said main memory to a second cache in a single memory operation (e.g., Figure 2; Column 5, lines 43-50).

Regarding Claim 2, Yang et al disclose the method of Claim 1 further comprising the step of forwarding data packets out of said network node from said second cache onto said network (e.g., Figure 2; Column 3, lines 11-13).

Regarding Claim 3, Claim 1 is addressed above. Inherently, the predetermined amount of data is comprised of N blocks of data and the size of said block corresponds to a minimum data packet size.

Regarding Claim 4, Claim 1 is addressed above. Yang et al further teach said first cache, said main memory, and said second cache act logically as a single first-in-first-out queue (e.g., Figure 2 ; Column 5, lines 34-50).

With respect to Claim 9, Yang et al disclose a network element for coupling to a data network, comprising: a first cache which stores data received by the network element (e.g., element 210 in Figure 2); a main memory coupled to the first cache, wherein data from the first

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cache is written to the main memory (e.g., Figure 1 and 2; Column 5, lines 10-22, 34-43); a second cache coupled to the main memory, wherein data from the main memory is written to the second cache for output onto the network (e.g., Column 5; lines 43-50).

Regarding Claims 6-7 and Claim 13, Claim 1 and Claim 9 are addressed above. The system of Yang et al inherently use random access memory, particularly SRAM for the buffers and DRAM for main memory.

Regarding Claims 10-11, Claim 9 is addressed above. Yang et al further disclose that said first cache stores N blocks of data until a given set of N blocks of data are stored whereupon the given set of N blocks of data are transferred to the main memory in a single memory access operation (e.g., Column 5, lines 10-22). Yang et al further disclose the given set of N blocks of data stored in the main memory are transferred to the second cache in a single memory access operation (e.g., Figure 2; Column 5, lines 43-50).

Regarding Claim 5 and Claim 12, Claim 1 and Claim 11 are addressed above. Yang et al teach a memory having M data flows and said network node is comprised of M multiple receive buffer locations, M multiple data storage areas within said main memory, and M multiple transmit buffer locations in order to function and operate with appropriate data accesses.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 8 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yang et al (United States Patent No. 5,546,543).

Regarding Claim 8 and Claim 14, Claim 1 and Claim 9 are addressed above. Yang et al teach Claim 1 and Claim 9, but does not specifically mention transferring data directly from the first buffer to the second buffer and bypassing the main memory. However, based on the interconnection between the receive and transmit buffers as shown in Figure 2, the inclusion of a direct transfer between the first and second buffers would have been obvious at the time the invention was made to a person having ordinary skill in the art because it would allow for faster transfer and access.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kathy Takeguchi whose telephone number is (703) 305-8115. The examiner can normally be reached on Monday - Friday, 8:00AM - 4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Do H. Yoo can be reached on (703) 308-4908. The fax phone numbers for the

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organization where this application or proceeding is assigned are (703) 746-7239 for regular communications and (703) 746-7238 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

KT

Kathy Takeguchi
Art Unit 2187
December 11, 2002


DO HYUN YOO
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100